

The death of George Barrie, a member, January 4th, was also announced.

Eruptions of the Costa Rican Volcano Irazú in 1917-18.—Dr. PHILIP P. CALVERT stated that the first and greatest known eruption of Irazú occurred in 1723, from February intermittently to December. A contemporary account by the Spanish Governor of Cartago, Don Diego de la Haya, exists and has been reprinted several times.

A recent report by Prof. Tristán refers to eruptions of "smoke" or of vapors seen by visitors to the old craters in 1844, 1847, 1855, 1859, 1870, 1880, 1884, 1888, and 1910.

La Información, a daily paper of San José, for October 6, 1917, published a despatch from a correspondent who visited the craters of Irazú on the preceding day, in which he stated that they were violently exhaling large columns of steam, rising at times to a height of 70 meters, accompanied by sulphurous odors, rumbling sounds and small volcanic stones.

This notice led Prof. J. Fidel Tristán, accompanied by Señores Alvaro Fernández Peralta and Ewald Starke to visit the volcano on October 19 and 20, 1917. A report (that alluded to above) by Prof. Tristán and Señor Ricardo Fernández Peralta on the observations made on these days was subsequently published in *La Gaceta, Diario Oficial* (Official publication of the Costa Rican Government), for December 4, 1917. It is accompanied by reproductions of some photographs taken by Prof. Tristán and a plan of the craters in eruption. This report has been reprinted in better form as No. 1, Series A, *Publicaciones, Colegio de Señoritas*, San José, 1917.

Professor Tristán found that craters D, E, G, H, L and M (following the designations of Dr. Karl Sapper) were discharging vapor. A fuller series of the October photographs than were included in this report has been sent by Prof. Tristán to the speaker, as well as others taken by Señores José Maria Tristán on December 19, 1917, and Ricardo Fernández Peralta on December 20, 1917, in the craters, and telephotographs from San José by Prof. Tristán in January, 1918. All these photographs were shown on the screen and the speaker added explanatory remarks based on Prof. Tristán and Señor R. F. Peralta's report, articles from various issues of *La Información* and his own visits to the volcano in 1909 and 1910. The later photographs show the chief discharge as being from crater G. A considerable fall of ash and scoriæ was reported as occurring on December 19 and January 6 and 7, reaching on the last date to San José.

Samples of the ash collected in San José and forwarded by Mr. J. B. Clark, and of ash from the eruption of Poás, of January, 1910, were exhibited under microscopes. The former is much darker than the latter; Prof. Alfaro, director of the National Museum in San José, is quoted in *La Información* of January 8, 1918, as saying that the Irazú ash was produced by decomposition of andesite and contained but little sulphur, while that of Poás was due to calcination of pumice and (when first fallen) contained much sulphuric acid.

The communication was illustrated by lantern views.

MR. JAMES A. G. REHN gave an outline of the work of the Southern Arizona Expedition of 1916. (No abstract.)

Mr. Francis R. Cope was elected a member.

The following were elected Correspondents:

George Howard Parker, of Cambridge, Massachusetts;
Alfred Goldsborough Mayer, of Tortugas;
Charles Richard Van Hise, of Madison, Wisconsin;
John Campbell Merriam, of Berkeley, California;
John Henry Comstock, of Ithaca, New York;
Herbert Spencer Jennings, of Baltimore, Maryland;
Frank Rattray Lillie, of Chicago, Illinois.

The following were ordered to be printed: